NATURAL RESOURCES CONSERVATION SERVICE

FERAL SWINE MANAGEMENT

INTERIM CONSERVATION ACTIVITY

(Ac.)

(Code 297)

DEFINITION

Feral swine management is a component of an area wide effort of assessment, planning, exclusion, scouting, control, and monitoring to document and reduce resource damage caused by feral swine and focus interagency management efforts to reduce adverse resource impacts and health concerns for other animals and humans.

PURPOSE

- Determine locations and intensity of feral swine impacts upon resource conditions and potential means to reduce or eliminate these impacts.
- Develop a management plan to address feral-swine-impacted resources of concern using a conservation practice or system of conservation practices.
- Evaluate the effectiveness of a practice or system of practices in reducing resource impacts from feral swine.

CONDITIONS WHERE THE CONSERVATION ACTIVITY APPLIES

This conservation activity only applies where NRCS has collaborated with APHIS and where appropriate, State wildlife agencies, and other partners to establish an overarching strategy for feral swine management in specific geographic areas with a high likelihood of success in managing feral swine populations and address significant natural resource concerns on all land types except "Water."

This activity applies where feral swine are present and need to be managed or controlled to address one or more of the following natural resource concerns:

- Impacts to Soil Health – Soil Erosion and Soil Quality Degradation Resource Concern
    - Classic Gully Erosion
    - Ephemeral Gully Erosion
    - Sheet and Rill Erosion
    - Streambank, Shoreline, Water Conveyance
    - Organic Matter Depletion
- Destruction of Natural Areas – Fish and Wildlife Inadequate Habitat Resource Concern
    - Inadequate Habitat – Cover/Shelter
    - Inadequate Habitat – Food

    - Inadequate Habitat – Water
- Impacts to Water Bodies and Wetlands – Water Quality Degradation Resource Concern
    - Nutrients in Surface Water
    - Excess Pathogens and Chemicals from Manure, Bio-solids or Compost Applications in Surface Water
    - Excessive Sediment in Surface Water
    - Elevated Water Temperature
- Impacts to Vegetative Diversity – Degraded Plant Condition Resource Concern
    - Undesirable Plant Productivity and Health
    - Inadequate Structure and Composition
- Impacts to Pasture and Rangeland Productivity – Livestock Production Limitation Resource Concern
    - Inadequate Feed and Forage

GENERAL CRITERIA

- A feral swine management component of a conservation plan must be developed that explicitly links and contributes to a broader APHIS feral swine management strategy.
- All methods proposed for feral swine management must comply with Federal, State, and local regulations.
- An appropriate set of mitigation techniques must be planned and implemented to reduce the environmental risks of feral swine management activities in accordance with quality criteria in the local Field Office Technical Guide. Mitigation techniques include practices like planting or maintaining a Filter Strip, Conservation Plantings, Conservation Crop Rotation, Restoration and Management of Rare and Declining Habitat and other management practices that also consider the method or timing of feral swine management.
- All management activities directly involving feral swine, such as trapping, transport, euthanasia, and disposal of carcasses will be the responsibility of the landowner, APHIS, or other partners. NRCS will have no role in these activities.

Resource-Specific Criteria

- Additional Criteria to Enhance Quantity and Quality of Plant Communities
    - As an essential component of feral swine management, clients will be required to use the intensity of control effort necessary to meet their objectives to protect or restore the plant community for both quantity and quality.
- Additional Criteria to Protect Soil Resources
    - In conjunction with other conservation practices, the number, sequence and timing of operations must be managed to maintain soil health and minimize soil loss.
    - As an essential component of feral swine management, clients must be required to revegetate damaged areas where soil is exposed with no or limited plant cover to reduce sediment loss and to prevent erosion unless natural revegetation will occur in a timely manner.

- Additional Criteria to Protect Water Resources
    - Clients must be required to pay special attention to the use of water impacted by feral swine as this water often has harmful agents that may exceed human health standards. Swine activity in streams also impacts a variety of aquatic flora and fauna.
    - Damage to streambanks and land adjacent to waterbodies will be replanted with vegetation to minimize sediment and nutrients from entering the water source unless natural revegetation will occur in a timely manner.
- Additional Criteria to Protect Plant Resources
    - Use appropriate NRCS structural practices to protect vegetation.
- Additional Criteria for Habitat Degradation
    - If needed, use appropriate NRCS vegetative, structural, and management practices to restore native vegetation and natural resource function

Assessment and Evaluation

Effective monitoring and scouting prior to implementing management actions—an assessment of baseline resource conditions—is required to determine where feral swine populations are concentrated, how regularly they are visiting population monitoring stations, and how many individuals are visiting each station. Effective monitoring and scouting after implementing management actions—an evaluation—is required to determine when feral swine populations have been reduced to a level where other conservation practices can be successfully installed to address resource concerns. Data collection and monitoring methods should remain the same during the assessment and evaluation period to allow comparison of before-management and after-management implementation results.

Methods

- Locate areas using monitors and cameras to identify key areas used by feral swine. Feral hogs tagged with GPS transmitters installed by partners are an excellent way to identify key target areas.
- Document excess bank erosion using SVAP 2.
- Document stream channel and riparian condition using SVAP 2.
- Document wetland condition using State-developed functional assessment protocol.
- The extent of damage caused by feral swine will be recorded before and after management strategies are installed.
- Use the appropriate Wildlife Habitat Evaluation Guide (WHEG) to document habitat degradation caused by feral swine.
- Document competition for browse and mast resources.
- Document pasture condition score per FOTG.
- Document rangeland health per FOTG.
- If applicable, document current “state” using the relevant state and transition model.

Reporting

A report summarizing the methods employed and progress, relative to benchmark conditions, towards meeting quality criteria for each resource concern utilizing monitoring data collected must be prepared annually by each NRCS State office adopting this interim activity and submitted to the Ecological Sciences Division director.

Management Plan

The management component of a conservation plan must be prepared in accordance with the criteria of this standard and must describe the requirements for applying the practice to achieve its intended purposes. As a minimum, the feral swine management component of a conservation plan must include—

- A description of how the specific components contribute to achieving the APHIS feral swine management strategy for that specific area.
- Plan map and soil map of managed site, if applicable.
- Location of sensitive resources and setbacks, if applicable.
- Identification of the system of practices needed to address resource concerns.
- Locations specific practices are needed to address resource concerns.
- Locations of monitoring equipment, such as cameras; survey routes will be located on the plan map.
- Operation and maintenance requirements will be documented in the plan.

The plan must incorporate appropriate operation and maintenance items for the client, which may include the following:

- Review and update the plan periodically in order to incorporate new monitoring, prevention, or control technology.
- Develop a safety plan for individuals that will be working in field settings. Educate individuals regarding heat related concerns, having available drinking water, wearing suitable clothing and understanding of the hazards of working in outdoor settings.
- Because of the myriad of viruses, bacteria, and parasites that feral swine carry that can infect humans, precautions should be taken to prevent handling them without personal protection.
- Maintain records of feral swine monitoring and management activities for at least 3 years.

CONSIDERATIONS

General

The most successful strategy to reduce damage from feral swine is to employ a diversity of tactics in a comprehensive integrated approach.

Focusing resources on larger management units by creating landowner cooperatives can be an efficient and effective strategy for managing feral swine. Minimum acreage size of cooperatives

will depend on habitat quality, terrain, distance between water resources, and other factors that may influence home range size.

Feral swine are known to be carriers of many harmful viruses, bacteria, and parasites, some of which are transmittable to humans. Human contact with feral swine should be avoided if possible and protective measures should be used if contact is unavoidable. It may be helpful to educate the public about feral swine, the diseases they carry, the damage they do to the environment, and management activities.

Assessment and Evaluation

Monitoring and scouting, along with camera stations, will help focus management strategies on imperiled natural resources and avoid targeting management activities in areas where it is not necessary.

Water Resources

Feral swine cause major damage to water resources by their presence and use of these areas to cool down and escape from annoying insects. Feral swine have also caused E. coli and fecal coliforms in some streams to exceed human health standards. Where impacted waters are used for human or livestock consumption, consider water testing for pathogens.

Conservation Practices

In developing a management plan the following practices, individually or used together as a system of practices, must be the primary practices considered and planned in addressing feral-swine-impacted resources of concern:

Code	Practice name
472	Access Control
342	Critical Area Planting
647	Early Successional Habitat Development/Management
382	Fence
512	Forage and Biomass Planting
315	Herbaceous Weed Control
528	Prescribed Grazing
550	Range Planting
643	Restoration and Mgt. of Rare or Declining Habitats
391	Riparian Forest Buffer
390	Riparian Herbaceous Cover
381	Silvopasture Establishment
612	Tree/Shrub Establishment
490	Tree/Shrub Site Preparation
645	Upland Wildlife Habitat Management
658	Wetland Creation
659	Wetland Enhancement
657	Wetland Restoration
644	Wetland Wildlife Habitat Management

Use facilitating practices such as Access Control (472), Fencing (382), and vegetative practices to increase efficiency of management activities, protect sensitive environmental areas, prevent new damage, or repair damage caused by feral swine. Exclusion practices or activities may not be used to control pests such as feral swine in cropland land uses. Clients should pay special attention when other conservation practices such as Fence are used to minimize negative impacts to other animals.

References

Bureau of Land Management. 1998. Riparian Area Management: A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas. TR-1737-15.

Campbell, T. A., & Long, D. B. 2009. Feral swine damage and damage management in forested ecosystems. Forest Ecology and Management 257:2319-2326.

Hamrick, B., M. Smith, C. Jaworowski, B. Strickland. A Landowners Guide for Wild Pig Management: Practical Methods for Wild Pig Control. Mississippi State University Extension Service & Alabama Cooperative Extension System.

Lewis, C., M. Berg, N. Dictson, J. Gallagher, M. McFarland, J. C. Cathey. Recognizing Feral Hog Sign. AgriLife Extension. L-5523, 02-11, Texas A&M University System.

Lyons, J. E., M. C. Runge, H. P. Laskowski, and W. L. Kendall, 2008. Monitoring in the Context of Structured Decision-Making and Adaptive Management. Journal of Wildlife Management 72(8):1683-1692.

NRCS. 2009. National Biology Handbook Part 614, Subpart B. Stream Visual Assessment Protocol. Version 2.